
LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 255

SWEET SPIRIT OF NITRE.

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OTTAWA, March 28, 1913.

W.M. HIMSWORTH, Esq.,
Acting Deputy Minister,
Inland Revenue.

SIR.—I beg to hand you a report upon 73 samples of Sweet Spirit of Nitre, obtained by our inspectors during December, 1912, and January, 1913.

The report shows that 41 samples contain the legal amount of Ethyl Nitrite, while 32 samples contain less than the minimum permitted by the British Pharmacopoeia.

This important drug has on two former occasions been the subject of inspection, and has always been found to show a high percentage of adulteration; consisting not in the addition of foreign matters, but in containing less of the active principle (Ethyl Nitrite) than the standard set by the pharmacopoeias requires.

As has been pointed out in former bulletins, and emphasized by the pharmacopoeias, the article is prone to decomposition; and, unless kept with special care, will always deteriorate in the hands of the dealer. This fact is so well known to the drug trade that physicians have a right to expect special care on the part of the druggist, who is properly held responsible for the quality of the drugs he dispenses. The following table presents the results of three inspections of Sweet Spirit of Nitre:—

Bulletin.	Year.	Total samples.	Genuine.	Adulterated.
167.....	1908	77	37	63
234.....	1911	74	57	43
255.....	1913	73	56	44

The minimum amount of Ethyl Nitrite required by the British Pharmacopoeia is one and three-quarters per cent (1.75) by weight. Of the collection now reported, 44 per cent of the samples contain less than this amount; 30 per cent contain less than 1 per cent of Ethyl Nitrite; 14 per cent contain less than one-half of 1 per cent; while nearly nine per cent of the samples contain none at all.

Although the names of the manufacturers, or furnishers, as supplied by the vendor, are given in their proper places in the appended table, it is but right to insist that responsibility for the quality of Sweet Spirit of Nitre should rest upon the immediate dealer, or vendor of the article. There is no reason to believe that any manufacturer of repute furnishes this drug otherwise than up to standard strength. The name of the manufacturer or furnisher is given in accordance with Section 19 of the Act, and not because of any proved negligence on his part.

It is abundantly evident, in view of the continued sale of this drug in a condition in which it seriously handicaps the physician, and imperils the well-being of the patient, that druggists must be made to realize their responsibility in dispensing drugs which fail to meet the standard set by the pharmacopoeias.

I beg to recommend publication of this report as Bulletin 255.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,
Chief Analyst.

NOTE.

It seems proper to explain that there is always considerable delay in publishing the results of analysis, due to correspondence with manufacturers and vendors, involving weeks or months in some instances. In the present case, collection of samples was made by our inspectors between the 15th December, 1912, and the 30th January, 1913. The samples were contained in 2-ounce bottles and quite filled. On receipt here they were at once placed in a dark refrigerator. Analysis was begun on the 15th January, and very few samples were more than two or three weeks in storage.

Under these conditions, I cannot believe that deterioration proceeded while the samples were in the possession of the department.

Experiments made by the late Franklin T. Harrison, Public Analyst, proved that Sweet Spirits of Nitre made according to British Pharmacopeial directions can be kept, without change, for a year, under proper precautions. (See Bull No. 23, p. 7.)

If this important drug cannot be procured by physicians in such condition as the pharmacopoeia requires, it should either be removed from the pharmacopoeia altogether, or physicians must learn to employ it in full knowledge of its doubtful character and be prepared for most erratic and uncertain results.

The fact is that it can be prepared and kept by careful and intelligent druggists, and that this is not done must be regarded as a disgrace to the drug trade, and a very serious menace to the public.

BULLETIN No. 255—SPIRIT OF NITROUS ETHER.

DISTRICT OF NEW BRUNSWICK—JOHN C. FERGUSON, INSPECTOR.

1912.	Dec. 19	Spirit of Nitrous Ether.	50630 The Nat. Drug Co., 6 oz. Ltd., St. John, N.B.	60 Nat. Drug Co., Ltd., Montreal.	.....	.....	0.882	7.53	2.74	3633(Genuine).
	24	"	50631 The Canadian Drug Co., 6 oz. Ltd., St. John, N.B.	50 E. Merck, Darmstadt, Germany.	.....	.....	0.884	7.62	2.77	5031 "
1913.										
Jan. 9	"		50632 Baird Co., Ltd., 6 oz. Woodstock, N.B.	30 Vendors.....	.....	.....	0.884	7.57	2.85	5032 "
16	"		50633 Leger Drug Co., 6 oz. Moncton, N.B.	60 Mallinckrodt Chem. Wks., St. Louis, N.Y.	.....	.....	0.823	9.57	3.48	5033 "
16	"		50634 Fairweather Bros., 6 oz. Moncton, N.B.	50 Nat. Drug & Chem. Co., St. John & Montreal.	.....	.....	0.849	5.53	2.06	5034 "

DISTRICT OF QUEBEC—F. X. W. E. BELAND, INSPECTOR.

1912.	Dec. 18	Spirit of Nitrous Ether.	37282 A. Martineau, 734 6 (or, Rue St. Valier, Quebec.	50 Nat. Drug Co., St. Valier, Que- bec.	W. Brunet & Cie, Quebec.	.....	0.950	0.00	0.00	37282 Adulterated, ethyl nitrite.
	18	"	37283 J. Masson, 305 Rue 6 (or, Rue St. Valier, Que- bec.)	50 Mfrs. ....	.....	.....	0.827	5.48	2.00	37283 Genuine.
	18	"	37284 T. Martel, 784 6 (or, Rue St. Valier, Que- bec.)	40 E. B. Shuttsworth, Toronto.	W. Brunet & Cie, Quebec.	.....	0.951	0.00	0.00	37284 Adulterated, ethyl nitrite.
	18	"		50 " "	Mfrs. ....	.....	0.927	0.00	0.00	" "
	18	"		60 Mallinckrodt Chem. Co., Montreal, 515 (or, Rue St. Joseph, Quebec.)	.....	.....	0.828	5.06	1.65	37285(Genuine).

BULLETIN No. 255—SPIRIT OF NITROUS ETHER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Manufacturer.	Furnisher.	Results of Analysis.		No. of Sample.	Remarks and Opinions of the Chief Analyst.
							Ether Nitrate per cent by weight of liquid.	Ether Nitrate per cent by weight of vol. oil.		
Dec. 24	Spirit of Nitrous Ether	63306	L. J. Marceau, Rr. 6 oz., moski.	50	Howard & Sons, Stratford, Ont.	L. McEwen Co., Montreal.	0.881	6.96	2.33	63306 (Genuine.)
" 24	"	63307	F. T. Lepage, Rr. 6 oz., moski.	50	W. Brunet, Quebec.	"	0.845	1.90	0.70	63307 Adulterated.
" 26	"	63310	E. O. Clouthier, 6 oz., Fraserville.	75	"	"	0.946	0.60	0.60	63310 Adulterated. ethyl nitrite.

DISTRICT OF EASTERN QUEBEC—A. PELLETIER, INSPECTOR.

1912										
Dec. 24	Spirit of Nitrous Ether	63306	L. J. Marceau, Rr. 6 oz., moski.	50	Howard & Sons, Stratford, Ont.	L. McEwen Co., Montreal.	0.881	6.96	2.33	63306 (Genuine.)
" 24	"	63307	F. T. Lepage, Rr. 6 oz., moski.	50	W. Brunet, Quebec.	"	0.845	1.90	0.70	63307 Adulterated.
" 26	"	63310	E. O. Clouthier, 6 oz., Fraserville.	75	"	"	0.946	0.60	0.60	63310 Adulterated. ethyl nitrite.

DISTRICT OF EASTERN TOWNSHIPS—J. J. COSTIGAN, ACTING INSPECTOR.

1913.										
Jan. 28	Spirit of Nitrous Ether.	51151	D. Richard, Sher 6 oz., brooke, P.Q.	65	Lyman Knox Co., Montreal.	"	0.834	6.30	2.36	51151 (Genuine.)
" 29	"	51152	E. C. Drolez, Co. 6 oz., aticook.	50	Nat. Drug & Chem. Co., Ltd.	"	0.857	5.12	1.30	51152 "
" 30	"	51153	J. C. Stockwell, 6 oz., Danville, P.Q.	50	Lymans Ltd.	"	0.844	5.80	2.11	51153 "
" 30	"	51154	J. A. Viger, St. 6 oz., Hyacinthe, P.Q.	45	"	"	0.857	2.47	0.30	51154 Adulterated.
" 30	"	51155	J. H. Brodeur, 6 oz., St. Hyacinthe, P.Q.	60	"	"	0.850	0.44	0.16	51155 "

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Dec. 31	Spirit of Nitrous Ether.	51071	H. R. Huot, Laurier ave., west, Montreal.	6 oz..	60	Lynnans Ltd.....				0.839	1.78	0.65	51071 Adulterated.
" 31	"	51072	J. H. Harro, 216 6th, Laurier ave., west, Montreal.	60	Nat. Drug & Chem. Co., Ltd.....				0.832	7.25	2.44	51072 Genuine.	
" 31	"	51073	F. E. Morgan, 168 6th, Fairmount ave., west, Montreal.	60					0.830	6.31	2.30	51073 "	
" 31	"	51074	Fairmount Medi-6, 6th, Fairmount Hall, 2008 Clarke st., Montreal.	60					0.831	7.25	2.64	51074	
" 31	"	51075	Quenneville & Guérin, 203 St. Law-rence Blvd., Montreal.	60					0.831	6.06	2.21	51075 "	

DISTRICT OF OTTAWA—J. A. RICKY, INSPECTOR.

Dec. 23	Spirit of Nitrous Ether.	51072	Chas. A. Adams or., Kempville.	60	T. Chamberlin & Co., Prescott.				0.237	0.00	0.00	51072 Adulterated.
" 24	"	51073	M. R. MacFarlane, Almonte.	60	L. Y. mans. Ltd., Mftrs., Montreal.				0.831	1.82	0.66	51073 Adulterated.
" 25	"	51074	The Ottawa Nat. Pharmacy, Ltd., Dalhousie st., Ottawa.	30	Vendors.....				0.831	2.67	0.37	51074 "
" 27	"	51075	La Pharmacie Medicina, Ltd., Hull, P.Q.	70	Nat. Drug & Chem. Co., Ltd., Ottawa.				0.830	2.25	0.82	51075 "
" 30	"	51076	D. J. Shattock, Ottawa.	60					0.837	5.20	1.88	51076 Genuine.

BULLETIN No. 256—SPIRIT OF NITROUS ETHER.

200—SPIRIT OF NITROUS ETHER.

Date of Collection.	Nature of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report. (Is not an expression of opinion).	Manufacturer.	Furnisher.	No. of Sample.	Results of Analysis.	P. C.	Remarks and Opinion of the Chief Analyst.
DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.											
1912.											
Dec. 18	Spirit of Nitrous Ether.	D. G. Blunker, 6 oz., Belleville.	20	Nat. Drug Co., Toronto.	.....	.....	.....	.....	0.887	5.06	1.84
" 18 "	"	D. M. Waters, 6 " ..	35	Vendor .....	.....	.....	.....	.....	0.875	5.50	2.00
" 18 "	"	O. G. Johns, Co. 6 " ..	50	Howard .....	.....	.....	.....	.....	0.845	3.74	1.26
" 18 "	"	T. G. Watson, 6 " ..	60	Nat. Drug Co., Toronto.	.....	.....	.....	.....	0.845	6.50	2.30
" 19 "	"	C. M. Moncur, 6 " ..	70	" .. Peterboro.	.....	.....	.....	.....	0.864	4.75	1.73
DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.											
1913.											
Jan. 14	Spirit of Nitrous Ether.	A. E. Gregory, 158 Main St. East, Toronto.	30	Vendor .....	.....	.....	.....	.....	0.886	1.63	0.61
" 14 "	"	J. A. Gallagher, 6 " ..	35	.....	.....	.....	.....	0.859	0.00	0.00	5.572
" 14 "	"	Jones and Gerrard Sta., Toronto.	50	Drug Trading Co., Ltd., Toronto.	.....	.....	.....	.....	0.919	0.31	0.14
" 14 "	"	W. A. Hotel, 6 " ..	50	Nat. Drug & Chem. Co., Ltd., Toronto.	.....	.....	.....	.....	0.918	0.35	0.13
" 14 "	"	Landown and Wallace Sta., Toronto.	35	Unknown .....	.....	.....	.....	.....	0.918	0.35	0.13
" 14 "	"	MacKenzie Brown, 6 " ..	50	Lyman Bros. & Co., Ltd., Toronto.	.....	.....	.....	.....	0.918	2.83	1.03
" 14 "	"	282 Roger Ave., Toronto.	50	.....	.....	.....	.....	.....	0.918	2.83	1.03
" 14 "	"	C. J. Stoddart, 1781 Dundas St. West,	50	.....	.....	.....	.....	.....	0.918	2.83	1.03

DISTRICT OF WINDSOR—JNO. TALBOT, INSPECTOR.

Jan.	2	Spirit of Nitroous Ether	47906 W. T. Rapley & Co., Stratford, Ont.	12 oz.	105	Nat. Drug Co., London, Nat. Drug Co., Hamilton.	.....	0.841	5.21	1.91	47906 Genuine.
"	3	"	47908 T. H. Hyde, Woodstock, Ont.	6 "	60	Vendor . . . . .	.....	0.825	7.18	2.61	47908 "
"	3	"	47913 E. A. Rea, Woodstock, Ont.	6 "	50	Vendor . . . . .	.....	0.872	10.20	3.73	47913 "
"	6	"	47918 E. C. Harvey, St. Thomas.	6 "	60	Made from concentrated ether.	.....	0.828	3.99	1.47	47918 Adulterated.
"	6	"	47921 F. P. Reynolds, St. Thomas.	6 "	60	Lyman Bros., Toronto.	0.828	9.40	3.43	47921 Genuine.

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DISTRICT OF MANITOBA—H. ASHTON, ACTING INSPECTOR.

Jan.	31	Spirit of Nitroous Ether	48801 C. A. Baird, Groves & Stafford, Winnipeg.	6 oz.	75	Mallinckrodt, New York.	0.826	7.41	2.68	48801 Genuine.
"	31	"	48802 Brookings Drug Store, 751 Greydon, Winnipeg.	6 "	46	"	.....	0.813	10.69	3.67	48802 "
"	31	"	48803 F. L. Brown, 551 6th Street, Pembina, Winnipeg.	6 "	50	"	.....	0.832	8.76	2.39	48803 "
"	31	"	48804 B. C. Juby, Pembina, St., Winnipeg.	6 "	60	"	.....	0.831	9.61	3.58	48804 "
"	31	"	48806 F. P. Scale, 226 6th Street, Winnipeg.	6 "	50	Nat. Drug & Chem. Co. of Canada, River Ave., Winnipeg.	.....	0.827	4.57	1.67	48806 Adulterated.

DISTRICT OF ROCKY MOUNTAINS—THOS. PARKER, INSPECTOR.

Jan.	3	Spirit of Nitroous Ether	49748 Utarm Drug Store, Grand Forks, B.C.	6 oz.	75	Nat. Drug Co., Vancouver, B.C.	.....	0.845	2.88	1.06	49748 Adulterated.
"	3	"	49794 Woodland & Co., Grand Forks, B.C.	6 "	60	May & Baker, London, Eng.	.....	0.848	6.00	1.82	49794 Genuine.
"	8	"	49802 Canada Drug & Co., Nelson, B.C.	6 "	75	Nat. Drug Co., Vancouver, B.C.	.....	0.829	8.25	3.00	49802 "
"	8	"	49803 P. O. P. Drug Co., Nelson, B.C.	6 "	75	Mallinckrodt, Chem. Wks. St., Louis, Missouri.	.....	0.829	8.02	2.98	49803 "
"	8	"	49804 Rutherford Drug Co., Nelson, B.C.	6 "	60	May & Baker, London, Eng.	.....	0.844	7.56	2.75	49804 "

BULLETIN No. 255—SPIRIT OF NITROUS ETHER.

Date of Collection.	Nature of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.	No. of Sample.	Remarks and opinion of the Chief Analyst.
				Quantity	Manufacturer				
				Sp. Gr.	15° C.				
				Ratio of vol. of Gas to weight of liquid.	Ethyl Nitrite per cent by weight.				
				gms.	gms.				

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

1913	Jan. 22	Spirit of Nitrous Ether.	38484 W. E. Almas, Penidor & Burrard St., Vancouver, B.C.	90	Vendor	Made from Mallinckrodt's concentrated nitrous ether.	0.829	8.68	p.c.
	" 22	"	38485 Campbell's Ltd., 6 Drug Co., Granville & Hastings Sts., Vancouver, B.C.	75	Vendor	"	0.832	9.92	3.61 38485
	" 22	"	38486 Old Drug Store, 6 Dunsmuir & Granville Sts., Vancouver, B.C.	75	Vendor	"	0.832	9.51	1.64 38486
	" 22	"	38487 Vancouver Drug Co., Granville St., Vancouver, B.C.	75	Vendor	Made from Mallinckrodt's concentrated nitrous ether.	0.830	10.41	3.78 38487
	" 22	"	38488 Leslie Henderson, 6 Georgia & Granville Sts., Vancouver, B.C.	75	Nat. Drug & Chem. Co., Vancouver, B.C.	"	0.822	9.51	3.47 38488

DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

Jan. 28	Spirit of Nitrous Ether.	53309 F. J. Williams, 6136 oz. Port St., Victoria B.C.	35 Vendor	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.832	6.25	2.27	53308 (Genuine.
" 28	"	53309 D. E. Campbell, 6006 oz. Port St., Victoria B.C.	75 Burgoynes Bur- braries, London, Eng. Vendor	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.846	5.61	2.06	53309 "
28	"	53316 Terry's Drug Store, 6 oz. 708 Port St., Vic- toria, B.C.	50 "	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.933	0.07	0.02	53310 Adulterated.
" 28	"	53311 Central Drug Store, 6 oz. 702 Gates St., Victoria, B.C.	75 Lyman's Ltd., Montreal.	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.839	4.26	1.55	53311 "
28	"	53312 John Cochrane, 6 oz. 1300 Douglas St., Victoria, B.C.	75 May & Baker, London, Eng.	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.843	6.78	2.46	53312 (Genuine.